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**Ebstyne et al.**

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(54) **POSE TRACKING AN AUGMENTED REALITY DEVICE**

(58) **Field of Classification Search**

None

See application file for complete search history.

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 113 days.

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CPC ..... **G06T 19/006** (2013.01); **G02B 27/017** (2013.01); **G06F 3/011** (2013.01); **G06F 3/012** (2013.01); **G06F 3/038** (2013.01); **G02B 2027/0178** (2013.01)

(57)

**ABSTRACT**

An augmented reality device including a plurality of sensors configured to output pose information indicating a pose of the augmented reality device. The augmented reality device further includes a band-agnostic filter and a band-specific filter. The band-specific filter includes an error correction algorithm configured to receive pose information as filtered by the band-agnostic filter and reduce a tracking error of the pose information in a selected frequency band. The augmented reality device further includes a display engine configured to position a virtual object on a see-through display as a function of the pose information as filtered by the band-agnostic filter and the band-specific filter.

**18 Claims, 5 Drawing Sheets**

